



GCE

Home Economics (Food, Nutrition and Health)

Unit **G002**: Resource Management

Advanced Subsidiary GCE

Mark Scheme for June 2016

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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| Question | | Answer/Indicative content | Mark | Guidance |
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| 1 | (a) (i) | <ul style="list-style-type: none"> • 9% | 1 | % symbol is printed on the paper so is not required from the candidate. |
| | (ii) | <ul style="list-style-type: none"> • 13% | 1 | % symbol is printed on the paper so is not required from the candidate. Accept 6 and 7 if both stated |
| | (iii) | <ul style="list-style-type: none"> • Wages and salaries | 1 | |
| | (iv) | <ul style="list-style-type: none"> • Grants • Money from property development • Rent • Inheritance • Lottery wins/betting/gambling • Gifts • Premium bond prizes • Company allowances e.g. car, medical or dental • Allowances from parents | 1 | 1 mark for any point Accept any other valid answer. |
| 1 | (b) | <ul style="list-style-type: none"> • A range of questions can be asked / specific information • A one to one discussion is available • Expert advice will be given/ current and up to date • Usually free (except for the cost of the phone call) • May be unbiased advice • Easily accessible/convenient/ comfort of own home/ do not have to travel • Long opening hours/ reliable service | 2x1 | 1 mark for each point. Max 2. |

| Question | | Answer/Indicative content | Mark | Guidance | |
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| 1 | (c) | <ul style="list-style-type: none"> The packaging may state a health claim (1) or it is believed to be a healthier choice (e.g.) high in fibre/low in sugar which would encourage the consumer to buy if health conscious (1) The packaging identifies specific dietary information (1) e.g. allergens/vegetarianism/additives which would encourage those with specific requirements to purchase it (1) It may feature an attractive image which appeals to the consumer (1) (e.g.) a cartoon character on a child's breakfast cereal/picture of fruit on an 'adult' cereal/ bold colours or design (1) It may state that it contains 50% extra free or similar (1) may make the consumer believe he/she is getting a bargain (1) Use of persuasive language can communicate a brand image (e.g.) high quality products may be described as 'finest' / cheaper products may be described as 'basic' or the actual brand name (1) may encourage purchase if popular (1) Competitions on the packaging (1) may encourage the consumer to buy the product so that he or she can enter (although they may state that no purchase is necessary) (1) Logos or statements (e.g. Mobius loop/can be recycled/fair trade) (1) may encourage purchase by consumers who are concerned with the environment (1) Serving suggestions / preparation e.g. Cooks in two minutes (1) may encourage consumers to purchase if it fits in with their lifestyle | 2x2 | <p>1 mark for a correct reason and 1 for an appropriate explanation x 2. Max 4.</p> <p>Accept negative responses too</p> | |
| 1 | (d) | (i) | <p>A Product that is produced without the use of chemicals.</p> <p>Examples:</p> <ul style="list-style-type: none"> Artificial pesticides Antibiotics Synthetic fertilizers Hormones Genetic modification | 1 | <p>May use the word 'chemical' and or give an example.</p> <p>Max 1</p> |

| Question | | Answer/Indicative content | Mark | Guidance |
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| 1 | (d) (ii) | <ul style="list-style-type: none"> • Perceived to be healthier (1) more vitamins/ minerals or antioxidants/ than other products (1) • Fewer health risks (1) as artificial pesticides/ fertilizers/ antibiotics/ hormones may be carcinogenic /compromise immune system (1) • Meet ethical values/ social conscience (1) Animals are treated humanely/Uses less energy than conventional farming/Less impact on the environment than conventional farming (1) | 2x2 | <p>1 mark for a correct reason and 1 for an appropriate explanation x 2. Max 4.</p> <p>Do not accept responses which repeat the answers to d (i) – without qualification (e.g.) Fewer health risks because artificial pesticides are not used.</p> |
| 1 | (e) | <ul style="list-style-type: none"> • Allows for convenient payment of bills (1) as regular payments such as rent/mortgage/council tax/ loans are made (1) • Assists with budgeting (1) as large payments are spread over a period of time (1) • Payment happens automatically (1) saves forgetting /avoids penalties (1) • Consumer may receive a discount for using this method of payment (1) utility bills/ bank account discount (1) | 2 | |
| 1 | (f) | <p>Developments in food packaging have given the consumer more food choice and convenience. Packaging which extends the shelf-life of a product means less frequent shopping trips are necessary and it has been easier to import food.</p> <p>Answers may include:</p> <p><i>Vacuum packaging:</i></p> <ul style="list-style-type: none"> • Remove oxygen from the container to extend the shelf life of foods • With flexible package forms, to reduce the volume of the contents and package • Limits growth of aerobic bacteria/fungi • Stores dry foods over a long period of time e.g. cheese, cured meats, smoked fish • Can be used to poach food (e.g.) sousvide • Prevents freezer burn | 8 | <p>Level 3 (7–8) The candidate gives a comprehensive explanation of how developments in food packaging materials benefit the consumer. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported with detailed and relevant examples. Specialist terminology will be used correctly and appropriately.</p> <p>Level 2 (4–6) The candidate gives a detailed explanation of how developments in food packaging materials benefit the consumer. Ideas will be expressed but may not be fully developed and will be supported with relevant examples. Specialist terminology may be used correctly.</p> |

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| | | <p><i>Modified atmospheric packaging (MAP/CAP):</i></p> <ul style="list-style-type: none"> • MAP - Slows the natural deterioration of the product and extends the shelf-life of products. • CAP - Permeable films used to seal fruit and vegetables but not for meat and fish as they don't respire. Keeps the product fresher for longer (colour and texture is preserved) <p><i>Aseptic packaging:</i></p> <ul style="list-style-type: none"> • Flash heating and cooling process allows more nutrients and flavour to be retained. • Aseptic packaging allows the unopened perishable drink to remain unrefrigerated for 6 months. <p><i>Easy open cans</i> e.g. pull ring makes cans more easily opened</p> <p><i>Self-heating cans</i> of coffee/baked beans or self- cooling cans of soft drinks do not require oven/microwave or use of the fridge and are convenient on the move/camping.</p> <p><i>'Ovenable' plastics and cardboards:</i> Introduced so food products can be cooked in either the microwave or conventional oven and could be consumed from the packaging / washing up not required.</p> <p><i>'Widget' technology:</i> Beer cans produce a superior 'head' at home when poured.</p> <p><i>Protective packaging</i> such as polystyrene to prevent fruit from being damaged e.g. exotic fruits</p> <p><i>'Portion'</i> packaging is convenient / useful for the increase in single person households.</p> <p><i>Resealable packaging</i> e.g. cheese, baked beans</p> <p><i>Thermally insulated packaging:</i> Keeps perishable products chilled or frozen while being transported (fish from a mobile fish van).</p> | | <p>Level 1 (1–3) The candidate gives a limited explanation of the developments in food packaging materials with limited links to how they benefit the consumer and will be supported with examples which may not be relevant. There will be limited use of specialist terminology which may not always be used appropriately.</p> <p>0 = no response worthy of credit</p> |

| Question | | Answer/Indicative Content | Marks | Guidance | |
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| | | | | Content | Levels of response |
| 2 | (a) | <p>The candidate may choose to describe how patterns of eating are affected by lower income and then higher income or describe each of the 'patterns' in turn and how they are affected by income.</p> <p>Patterns of eating relate to how, where and when they eat.</p> <p>Answers may include:</p> <ul style="list-style-type: none"> • Increase in income as a result of more women working longer hours may mean that fewer families are likely to eat together as women may be out at work at meal times. • Higher income may lead to greater use of ready meals due to a lack of time • Lower income families may use ready meals due to them being cheaper • Children may eat meals on their own possibly in their bedrooms as a result of the mother working or the shift work of parents. • If there is a reasonable amount of disposable income then eating out at restaurants / cafes / fast food establishments is more likely. • 'Eating on the go' – purchasing food from bakeries and sandwich shops may be as a result of more disposable income or it may be a cheaper alternative if purchased from budget establishments if income is low. • 'Dashboard dining' – food eaten in the car can be as a result of a busier lifestyle/increased car ownership and income. This may be snacks from forecourts or a 'drive through'. • 'Deskfast' – eating at the desk due to work commitments may be as a result increased income. | 10 | <p>If communication is clear this will help inform the level.</p> <p>Credit will be given for all valid points.</p> | <p>Level 4 (9 – 10 marks) The candidate gives a comprehensive description of how patterns of eating are affected by household income. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported where appropriate with relevant examples. Specialist terminology will be used correctly and appropriately. There will be few if any errors of spelling, punctuation and grammar.</p> <p>Level 3 (6 – 8 marks) The candidate gives a detailed description of how patterns of eating are affected by household income. Ideas will be expressed clearly but may not be fully developed and will be supported with relevant examples. Specialist terminology will be used correctly. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 2 (3 – 5 marks) The candidate gives a limited description of how patterns of eating are affected by household income. Ideas will be expressed but may not be fully developed and will be supported with examples which may not be relevant. There will be limited use of specialist terminology. There may be some errors in spelling, punctuation and grammar.</p> |

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| | | | | Content | Levels of response |
| | | <ul style="list-style-type: none"> Single working people on higher income may choose to eat out/take away/purchase higher priced ready meals The elderly are not necessarily an affluent group but they may still choose to eat meals on wheels and will eat their main meal when these are delivered. Lower income may lead to an increase in 'grazing' and eating snack foods which may be cheaper than alternatives. One or more parents working part time, possibly leading to a reduction of income, families are more likely to eat together – it is more expensive to prepare meals separately. Low income families may prepare meals from scratch as cheaper and have more time to use their skills Adults may go without meals if income is low. Low income families – children entitled to free school meals so eat main meal at school. May eat breakfast at school because it's cheap | | <p>Level 1 (1 – 2 Marks) The candidate identifies household income but with limited links to patterns of eating. Ideas will be poorly expressed or presented as a list. There will be limited if any use of specialist terminology which may not always be used appropriately. Errors of spelling, punctuation and grammar may be intrusive.</p> <p>0 = no response worthy of credit</p> | |

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| | | | | Content | Levels of response |
| 2 | (b) | <p>Supermarkets are beneficial to families on a low income as everything is in the same place and this reduces time, money and energy needed to go to different shops. The candidate may choose to take each resource in turn and describe how they are managed by shopping in a supermarket.</p> <p><i>Answers may include:</i></p> <p>Money: the family are on a low income they can manage money by shopping in a supermarket in the following ways:</p> <ul style="list-style-type: none"> • Budget and plan meals leading to producing a shopping list so impulse buying is reduced/ encourages consumers to buy only what is needed. • Be aware of cost of food e.g. seasonal variations • A family could shop in a budget supermarket and these often have products at reduced prices. • Shop using supermarket online service as easier to compare prices and reduces impulse buying • Don't go shopping when hungry • Find out when supermarkets reduce the goods which are near their use by date and shop on these days. • The family could choose to buy value ranges which most supermarkets have as part of their own brands and these will save money on basic products. • A loyalty card can be used to collect points for money off future shopping bills or days out or extra vouchers or promotions tailored to the shopper such as a petrol voucher. • Supermarkets have 'buying power' and can offer products at cheaper prices compared to local shops and specialist shops and this can save the family money. • Offers or BOGOF products are available at supermarkets to save money and supermarket prices | 15 | <p>If communication is clear this will help inform the level.</p> <p>Credit will be given for all valid points. Candidates should consider money, time and energy to achieve Level 4.</p> <p>Accept identification of ways in which a family on a low income can either manage, time, energy or money to achieve Level 1.</p> | <p>Level 4 (13 – 15 marks) The candidate gives a comprehensive explanation of how a family on a low income can manage their resources by shopping at a supermarket. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported where appropriate with relevant examples. Specialist terminology will be used correctly and appropriately. There will be few if any errors of grammar, punctuation and spelling.</p> <p>Level 3 (9 – 12 marks) The candidate gives a detailed explanation of how a family on a low income can manage their resources by shopping at a supermarket. Ideas will be expressed clearly but may not be fully developed and will be supported with relevant examples. Specialist terminology will be used correctly. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 2 (5 – 8 marks) The candidate gives a limited explanation of how a family on a low income can manage their resources by shopping at a supermarket. Ideas will be expressed but may not always be fully developed and will be supported with examples which may not be relevant. There will be limited use of specialist terminology. There may be some errors in spelling, punctuation and grammar.</p> |

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| | | <p>can be compared on websites such as ' My Supermarket'.</p> <ul style="list-style-type: none"> Food products could be bought in larger pack sizes which may not be available in smaller shops and these will save money particularly if they can be stored in the freezer or food cupboard. However, they may not be able to afford the initial cost. Vouchers are often available in fliers and newspapers for supermarkets and this can save money for the family on a low income. Ensure use Government vouchers 'Healthy Start' to purchase food for young children e.g. milk, fruit and vegetables As everything is under one roof and other services such as opticians and dry cleaners. The family can save money in transport costs as they do not have to go to more than one place and the car parks can often be free or subsidised. Buy cheaper protein foods (e.g.) beans, cheaper cuts of meat. Buy cheap starchy foods preferably in bulk e.g rice, pasta Purchase tinned or frozen as maybe cheaper Purchase imperfect fruit or vegetables <p>Time: the family on a low income can manage time by shopping in a supermarket in the following ways:</p> <ul style="list-style-type: none"> As most of the items a family would need would be under one roof this would save time going from one shop to the next. Many supermarkets offer additional services such as opticians and pharmacies which will mean the family can save time by visiting the pharmacy whilst at the supermarket. | | <p>Level 1 (1 – 4 marks) The candidate identifies how a family on a low income can manage their resources with limited links to shopping at a supermarket. Ideas will be poorly expressed or presented as a list. There will be limited if any use of specialist terminology which may not always be used appropriately. Errors of spelling, punctuation and grammar may be intrusive.</p> <p>0 = no response worthy of credit</p> | |

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| | | | | Content | Levels of response |
| | | <ul style="list-style-type: none"> • Self-scan to monitor spending and save time • Shop at a supermarket close to home <p>Energy: The family on a low income could manage their energy in a supermarket in the following ways:</p> <ul style="list-style-type: none"> • Fuel energy could be saved by visiting the supermarket as most items would be under one roof and this would only involve one car journey. • Personal energy could be saved as the family may only have to visit one place as opposed to travelling to a town centre and then walking from shop to shop. • Some supermarkets may offer a delivery service if the family does not have a car to take their food shopping home and this will save personal energy. • Leave the children at home as less pester power and quicker to shop using less energy • Use free buses and take advantage of free home delivery service | | | |

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| | | | | Content | Levels of response |
| 3 | (a) | <p>The candidate may choose to go through each of the Acts and describing how each one protects the consumer.</p> <p><i>Answers may include:</i></p> <ul style="list-style-type: none"> • <i>The Sale and Supply of Goods Act 1979/1994:</i> Ensures that the goods sold are for the purpose claimed or shown on the packaging. • Protected from inferior quality items as they have to function correctly for a reasonable amount of time. <p><i>The Act states that:</i></p> <ul style="list-style-type: none"> • <i>Goods must be of satisfactory quality:</i> this means the goods must meet the standards that a consumer would expect. It should take into account the description, the price and any other relevant information. The goods must be free from any faults. • <i>Goods must be fit for purpose:</i> The goods must be fit for any specific or particular purpose. If goods do not comply they must be repaired, replaced or the money refunded. • <i>Goods must be as described:</i> the goods should match the description applied to them. <p>This also applies to second hand goods.</p> <p><i>Trades Descriptions Act 1968/1972:</i> Protects the consumers so that they are not misled in any way about the type of goods, the price, quantity manufacture or the way they have been tested. Consumers are protected because the description of the goods must be accurate and exaggerated claims cannot be made.</p> | 10 | <p>Credit will be given for all valid points.</p> <p>Credit will be given for both old and new legislation</p> | <p>Level 4 (9 – 10 marks) The candidate gives a comprehensive description of the legislation which protects the consumer when purchasing a new cooker. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported where appropriate with relevant examples. Specialist terminology will be used correctly and appropriately. There will be few if any errors of spelling, punctuation and grammar.</p> <p>Level 3 (6 – 8 marks) The candidate gives a detailed description of the legislation which protects the consumer when purchasing a new cooker. Ideas will be expressed clearly but may not be fully developed and will be supported with relevant examples. Specialist terminology will be used correctly. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 2 (3 – 5 marks) The candidate gives a limited description of the legislation which protects the consumer when purchasing a new cooker. Ideas will be expressed but may not be fully developed and will be supported with examples which may not be relevant. There will be limited use of specialist terminology. There may be some errors in spelling, punctuation and grammar.</p> |

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| | | | | Content | Levels of response |
| | | <p><i>Consumer Safety Act 1978:</i> This Act is an update of 1961 Consumer Protection Act and it protects the consumer from non-food goods which are dangerous.</p> <p><i>The Consumer Protection (Distance Selling) Regulations 2000 Amendment 2005</i></p> <ul style="list-style-type: none"> • Act protects the consumer when buying goods or services using the telephone, fax, mail order, catalogue, the internet and shopping channels. • Consumer is protected if the goods do not arrive or if they are not suitable once they arrive. • Should be given clear information about the order, a cooling off period, protection against credit card fraud and the demand for payment of unsolicited goods. • Not covered if you bid for something in an online auction or you bought from a private individual. <p><i>Consumer Credit Act 1974 (section 75)</i></p> <ul style="list-style-type: none"> • If you've paid for a cooker with a credit card, the credit card company and the trader may be jointly responsible for compensating you if things go wrong. This is called equal liability. Your provider is usually jointly liable with the trader for any single item you buy that costs more than £100 including VAT. • The total cost does not have to be paid by credit card. (e.g.) you may have paid a deposit by cash or cheque or you may have paid the deposit with a credit card and the balance by a different method. Even if this amount is for less than or up to £100, you will still be covered under equal liability rules. | | <p>Level 1 (1 – 2 Marks) The candidate identifies the legislation which protects the consumer with limited links to purchasing a new cooker. Ideas will be poorly expressed or presented as a list. There will be limited if any use of specialist terminology which may not always be used appropriately. Errors of spelling, punctuation and grammar may be intrusive.</p> <p>0 = no response worthy of credit</p> | |

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| | | <ul style="list-style-type: none"> • You can get in touch with your credit card company if: <ul style="list-style-type: none"> - you are unable to contact the trader - the trader has gone out of business - the trader has not replied to you <p>New Legislation</p> <p><i>Consumer Protection from Unfair Trading Regulations 2008</i></p> <ul style="list-style-type: none"> • Aims to harmonise legislation across the EU • Prohibits misleading and aggressive practices and has 31 practices prohibited in all circumstances e.g must not mislead the consumer <p><i>Consumer Contracts Regulations 2014</i> (replaces Distance Selling Regulations)</p> <ul style="list-style-type: none"> • Allows consumers to cancel orders 14 calendar days after receiving goods (previously 7) • Refunds must be paid within 14 days • Companies can't charge for items bought as a result of a pre ticked box or those put in the basket e.g. warranty <p><i>Consumer Rights Act 2015</i> (This piece of legislation has replaced the Sale and Supply of goods Act amongst other legislation)</p> <ul style="list-style-type: none"> • As with the Sale of Goods Act all products must be of satisfactory quality, fit for purpose and as described • Introduces a 30 day refund policy | | | |

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| | | | | Content | Levels of response |
| 3 | (b) | <p>Answers may include:</p> <p>There are many factors which will influence the selection and purchase of cookers.</p> <p><i>Examples:</i></p> <ul style="list-style-type: none"> • <i>Price and money available</i> Disposable income has a great bearing on what can be afforded and the type or specification of the product purchased. • <i>Design</i> - The size, colour, weight, capacity and aesthetic qualities of the cooker are very important to the consumer and should be carefully considered before a purchase is made. Different households may have different requirements and individual preference will also significantly influence choice. • <i>Quality</i> - Price will influence the quality of the product although economy or budget products represent excellent value for money. Shop around; decide on a budget, select quality, individual preference is a factor. • <i>The brand</i> - May influence the purchase of the cooker as the consumer may be more likely to buy a well-known brand rather than a less well-known brand. • <i>The Guarantee</i> - May influence the purchase of the cooker as a longer guarantee would be preferable to a shorter one particularly when the item is high in cost. • <i>Fitness for Purpose (function)</i> - Cooker should perform the function required. Electrical equipment is becoming more and more sophisticated. Advisable to research functions before sale. Find out the product specification and guarantee before buying. Instruction booklets should be clear, precise and easy to follow. • <i>Availability of Goods</i> - May have to settle for a different model if the product you want is not available. | 15 | <p>If communication is clear this will help inform the level.</p> <p>Credit will be given for all valid points.</p> | <p>Level 4 (13 – 15 marks) The candidate gives a comprehensive explanation of the factors which influence the selection and purchase of a cooker. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported where appropriate with relevant examples. Specialist terminology will be used correctly and appropriately. There will be few if any errors of spelling, punctuation and grammar.</p> <p>Level 3 (9 – 12 marks) The candidate gives a detailed explanation of the factors which influence the selection and purchase of a cooker. Ideas will be expressed clearly but may not be fully developed and will be supported with relevant examples. Specialist terminology will be used correctly. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 2 (5– 8 marks) The candidate gives a limited explanation of the factors which influence the selection and purchase of a cooker. Ideas will be expressed but may not be fully developed and will be supported with examples which may not be relevant. There will be limited use of specialist terminology. There may be some errors in spelling, punctuation and grammar.</p> |

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| | | | | Content | Levels of response |
| | | <ul style="list-style-type: none"> • <i>Advertising and current consumer trends</i> - People are influenced by advertising and the perceived popularity of a product. The wise consumer will be aware of the influence of persuasive advertising. • <i>Reviews by Which or Good Housekeeping</i> - a good or bad review would influence choice. • <i>Reference from family or friends</i> - May influence the consumer as they could recommend a product which is reliable. • <i>Energy Efficiency</i> – EU Energy Label - With the current climate becoming more environmentally aware then how much electricity an oven is using is very important to many consumers. • <i>Labelling</i> – BEAB, BSI • <i>Ethical choice</i> - Purchase of equipment linked to donation to good causes. • <i>Skills/knowledge of the consumer</i> - May influence the purchase of basic or sophisticated equipment. • <i>Fuel supply available</i> Gas/electric/dual fuel/solid fuel/bottled gas | | <p>Level 1 (1 – 4 marks) The candidate identifies the factors which influence the selection and purchase of a cooker. Ideas will be poorly expressed or presented as a list. There will be limited if any use of specialist terminology which may not always be used appropriately. Errors of spelling, punctuation and grammar may be intrusive.</p> <p>0 = no response worthy of credit</p> | |

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| | | | | Content | Levels of response |
| 4 | (a) | <p>Answers may include:</p> <ul style="list-style-type: none"> <i>Increased public awareness of the symptoms and signs of food poisoning</i> - Unreported 'stomach upsets' are now being reported as food poisoning. <i>Lack of knowledge/ skills in food preparation</i> – leading to poor food handling <i>Increased use of convenience foods</i> - Produced in factories means there is more potential for contaminating a large number of food products with food poisoning bacteria. <i>Consumption of some high risk foods</i> - Availability of cook – chill has increased and these foods have the potential to cause food poisoning if not stored and cooked correctly. There is lack of understanding among some consumers about the correct way to store and cook these foods. <i>Seasonal influences</i> - More cases during the summer months mostly due to inadequate refrigeration of food and more barbecues. More cases in winter due to cooking thawing of turkeys. <i>Increased numbers of people eating out</i> - This provides the opportunity for a single food product to cause many cases of food poisoning. Food may not have been prepared in such a way that it meets food hygiene standards. <i>More foreign travel</i> - E.coli 0157 is the most common cause of diarrhoea in travellers. Hygiene practices may not be as strict and water may be contaminated. <i>Globalisation of the food market</i> - More food is now imported into the UK and it may have been prepared in a country where food hygiene standards are not as high as the UK. | 10 | <p>If communication is clear this will help inform the level.</p> <p>Credit will be given for all valid points</p> | <p>Level 4 (9 – 10 mark) The candidate gives a comprehensive description of a wide range of reasons for the increase in the reported incidence of food poisoning. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported where appropriate with relevant examples. Specialist terminology will be used correctly and appropriately. There will be few if any errors of spelling, punctuation and grammar.</p> <p>Level 3 (6 – 8 marks) The candidate gives a detailed description of a range of reasons for the increase in the reported incidence of food poisoning. Ideas will be expressed clearly but may not be fully developed and will be supported with relevant examples. Specialist terminology will be used correctly. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 2 (3 – 5 marks) The candidate describes some reasons for the increase in the reported incidence of food poisoning. Ideas will be expressed but may not be fully developed and will be supported with examples which may not be relevant. There will be limited use of specialist terminology. There may be some errors in spelling, punctuation and grammar.</p> |

| Question | | Answer/Indicative Content | Marks | Guidance | |
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| | | | | Content | Levels of response |
| | | <ul style="list-style-type: none"> • <i>Advances in food microbiology</i> - New methods of detecting food poisoning bacteria have been developed, making it easier to trace outbreaks and identify bacteria. • Less regular shopping so food passing use by date | | <p>Level 1 (1 – 2 Marks) The candidate identifies a limited number of reasons for the increase in the reported incidence of food poisoning in superficial terms. Ideas will be poorly expressed and may be presented as a list. There will be limited if any use of specialist terminology which may not always be used appropriately. Errors of spelling, punctuation and grammar may be intrusive</p> <p>0 = no response worthy of credit</p> | |

| Question | | Answer/Indicative Content | Marks | Guidance | |
|----------|-----|--|-------|---------------------------------------|---|
| | | | | Content | Levels of response |
| 4 | (b) | <p>Answers may include:</p> <p>The candidate may choose to go through each of the factors in turn and then explain how they can be controlled.</p> <p>The bacteria responsible for food poisoning are called pathogenic bacteria. The main factors which contribute towards bacterial growth are the presence of food, moisture and warmth, with an appropriate length of time. Appropriate pH and oxygen concentration are also important. Restriction of these and appropriate food handling techniques will control bacterial growth.</p> <p><i>Food:</i></p> <ul style="list-style-type: none"> • Bacteria require a source of food in order to grow. • Usually high protein foods including meat, fish & poultry (& products), eggs, unpasteurized milk & soft cheeses. They also multiply rapidly in cooked rice and gravies. • In order to control bacterial growth on high risk foods conditions of warmth, time, moisture, oxygen and pH should be applied <p><i>Warmth:</i></p> <ul style="list-style-type: none"> • Bacteria multiply rapidly in the danger zone (5oC- 63oC). • Foods should be cooked thoroughly and have a core temperature of 70°C for at least 2 minutes. • Raw high risk foods should be kept in the fridge at 1 to 5°C where bacteria slow down (listeria is the exception – it grows in the fridge in foods such as prepared salads/soft cheeses). • or in a freezer at – 18°C at which temperature the bacteria will become dormant | 15 | <p>For temperature accept 70° C +</p> | <p>Level 4 (13 – 15 marks) The candidate gives a comprehensive explanation of the factors which contribute towards bacterial growth and how they can be controlled. Ideas will be expressed clearly and fluently in a well-structured manner and will be supported with relevant and detailed examples. Specialist terminology will be used correctly and appropriately. There will be few if any errors of spelling, punctuation and grammar.</p> <p>Level 3 (9 – 12 marks) The candidate gives a detailed explanation of the factors which contribute towards bacterial growth and how they can be controlled. Ideas will be expressed clearly but may not be fully developed and will be supported with relevant examples. Specialist terminology will be used correctly. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 2 (5 – 8 marks) The candidate gives a limited explanation of the factors which contribute towards bacterial growth and how they can be controlled. Ideas will be expressed but may not be fully developed and will be supported with examples which may not be relevant. There will be limited use terminology. There may be some errors of spelling, punctuation and grammar.</p> |

| Question | | Answer/Indicative Content | Marks | Guidance | |
|----------|--|--|-------|---|--------------------|
| | | | | Content | Levels of response |
| | | <p><i>Time:</i></p> <ul style="list-style-type: none"> • In the danger zone the numbers of bacteria can double every twenty minutes. Therefore within hours food is unsafe to eat. • Hot food should be stored above the danger zone and high risk foods should spend no longer than 2 hours between 5 and 63°C (cooked rice/buffet food). • Hot holding above 63°C should be for a maximum of 4 hours • If hot food is not going to be eaten straight away it should be cooled below 5°C within 90 minutes <p><i>Moisture:</i></p> <ul style="list-style-type: none"> • With moisture bacteria can multiply at a rapid rate and cause food poisoning. • Drying food removes the moisture so extends the shelf life. Therefore store dried foods in sealed dry conditions • The water must be in a form which is available to the bacteria. Freezing foods or adding sugar or salt will slow bacterial growth. <p><i>Oxygen:</i></p> <ul style="list-style-type: none"> • Some bacteria require an appropriate oxygen concentration in order to grow. Most food poisoning bacteria require the presence of oxygen. These are called aerobic bacteria. Others are anaerobic (do not require oxygen). • Vacuum packing will restrict the growth of bacteria such as <i>Bacillus cereus</i>. <p><i>pH:</i></p> <ul style="list-style-type: none"> • Most bacteria prefer a pH around neutral (pH 7). Most foods are only mildly acidic. • Bacteria will not multiply below pH 4.5 therefore pickling is an effective way to stop bacteria reproducing. | | <p>Level 1 (1 – 4 marks) The candidate describes the factors which contribute towards bacterial growth with limited links to how they can be controlled. Ideas will be poorly expressed and there will be limited if any use of specialist terminology which may not be used appropriately. The response may be presented as a list. Errors of spelling, punctuation and grammar errors may be intrusive.</p> <p>0 = no response worthy of credit</p> | |

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